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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,018	12/17/2001	Wah Yiu Kwong	042390P11691	7243

8791 7590 03/21/2007
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EXAMINER

JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
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2614

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/023,018	Applicant(s) KWONG ET AL.	
	Examiner Alexander Jamal	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-13,16-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Appeal

1. Based upon the discovery of a very significant piece of prior art, the examiner withdraws the finality of the prior office action and submits a new set of non-final rejections.
2. Examiner notes that several telephone calls were made to applicant's representative Mark Watson during the weeks of Feb 25th to March 10th to inform applicant of the new piece of prior art and determine whether applicant wanted the examiner to continue with appeal or withdraw the final rejection. The examiner never received a response back and in the interest of customer service and in light of the piece of prior art found, the examiner has issued a new non-final rejection.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3,12,13,8,9 are rejected under 35 U.S.C. 102(b) as being anticipated by Growney (0543645A1).

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As per **claims 1,12**, Growney's Fig. 3 discloses a handheld computing device comprising a housing with display 100 mounted thereon. Antennas 108 and 110 are located on the top glass layer of the display (Col 3 lines 5-20).

As per **claims 2,3,13**, Growney discloses that the antenna may be printed, pasted, sputtered, or plated on the glass.

As per **claims 8,9**, the antennas may be dipole (this includes center-fed and end-fed) (Col 1 lines 5-30).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 10,11,19,20** rejected under 35 U.S.C. 103(a) as being unpatentable over Growney (0543645A1).

As per **claims 10,11,19,20**, Growney deals with portable rf devices, however they do not specify the exact product to which their teachings are applied to.

It would have been obvious to one of ordinary skill in the art at the time of this application that the portable rf devices could be any well known products such as a PDA or PC tablet.

5. **Claims 21-27** rejected under 35 U.S.C. 103(a) as being unpatentable over Zuckerman (5802463), and further in view of Carson et al. (5705855), and further in view of Growney (0543645A1).

As per **claims 21,22**, Zuckerman discloses an RF transceiver with a network controller (comprised of parts of units 15 and 16 in Fig. 1) used to interface the transceiver with the network for a cell phone or other wireless communication device (ABSTRACT). Zuckerman further discloses antenna 18. However, Zuckerman does not disclose the transceiver mounted on a display of the device or the antenna mounted on the top glass layer of the display.

Carson discloses that portable radio devices comprise displays upon which IC circuitry may be mounted (Col 4 lines 20-30). Carson further discloses any conventional IC may be mounted to the under side of the LCD display on the glass substrate (Col 7 lines 14-25) with a chip-on-glass procedure. Carson teaches that this procedure can help in the miniaturization of communication devices (Col 1 line 65 to Col 2 line 10). It would have been obvious to one of ordinary skill in the art at the time of this application that any of the RF radio IC chips of Zuckerman could be mounted on the glass substrate of the display for the advantage of providing greater flexibility in design and miniaturization.

Growney's Fig. 3 discloses a handheld computing device comprising a housing with display 100 mounted thereon. Antennas 108 and 110 are located on the top glass layer of the display (Col 3 lines 5-20). It would have been obvious to one of ordinary skill in the art at the time of this application that the antenna could be mounted on the top

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unused portion of the glass display for the purpose of maintaining the integrity of a small handheld device without forfeiting the ability to efficiently receive signals (Col 3 lines 20-35).

As per **claim 23**, Zuckerman discloses a MAC dsp coupled to a baseband dsp (ABSTRACT).

As per **claim 24**, Zuckerman discloses a baseband state machine, a coding element and a modulation element in Fig. 3.

As per **claim 25**, a digital cell phone inherently requires an A/D and D/A in the signal paths for the purpose of providing the interface between the analog medium (free space) and the digital processing stages (Fig. 3).

As per **claims 26,27**, all three references deal with portable rf devices, however they do not specify the exact product to which their teachings are applied to.

It would have been obvious to one of ordinary skill in the art at the time of this application that the portable rf devices could be any well known products such as a PDA or PC tablet.

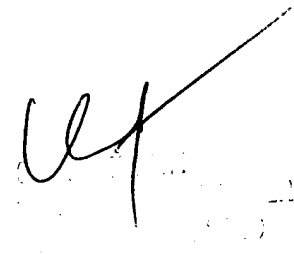
6. **Claims 5-7,16-18** rejected under 35 U.S.C. 103(a) as being unpatentable over Zuckerman (5802463), and further in view of Carson et al. (5705855), and further in view of Grownney (0543645A1).

As per **claims 5-7,16-18**, they are rejected for the same reasons as the claim 21 rejection above. The transceiver comprises the amplification circuitry.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

A handwritten signature in black ink, appearing to be 'UJ', with a long diagonal line extending from the top right of the signature.

AJ
March 19, 2007